vFailover

Overview:

vFailover provides an automated failover and failback mechanism for virtualized data centers in VMware environments. Mirrored data stores and raw device mappings can be switched between sites either in planned or disaster scenarios. Due to its broad range of supported VMware high availability cluster configurations it can be easily integrated in existing environments. vFailover closes the gap between storage and application administration by combining deep VMware knowledge with years of storage array experience.

- Fully automated Failover of Datastores/Virtual Machines/RAW Device Mappings in a Vmware HA-Cluster from one Datacenter to another.
- Failover from both sides, no Recovery Site needed
- Failback works the same way like Failover
- Simple Handling, Script/WebGUI based, was developed based on customer needs/pains
- No additional Storage Vendor Module (like SRA) needed
- Designed for environments with two datacenters, Vmware HA-Clusters, one Storage System(one vFailover Instance) per Site with mirrored LUNs (Datastores, RDMs)
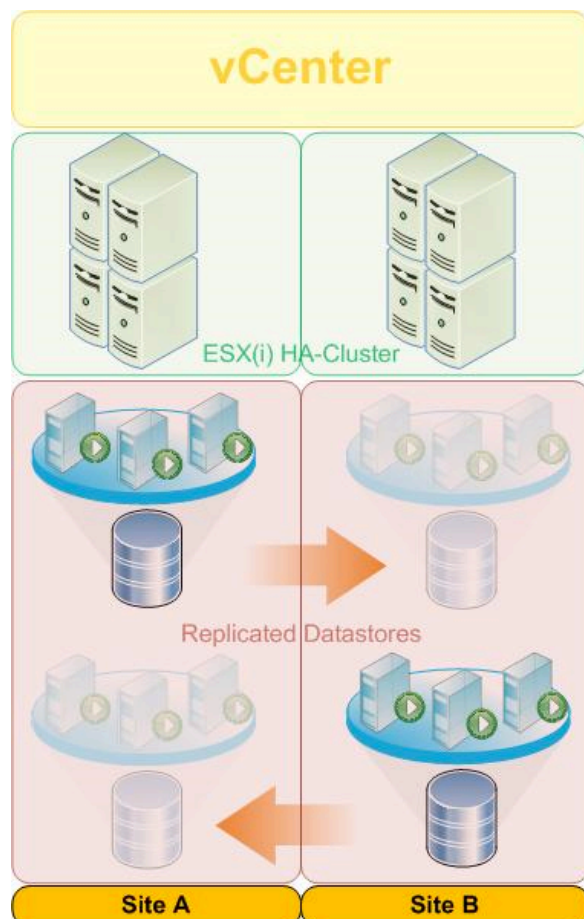
Description:

vFailover is a solution designed for minimizing downtime in cases of disaster or planned maintenance operations in an Vmware HA-Cluster environment running in two datacenters. There is no need to reconfigure the virtual environment before initiating failovers.
Failover/Failback tasks are fully automated and initiated the same way.
vFailover works on Datastore/RAW Device Mapping basis. That means single, multiple or all mirrored Datastores can be switched between datacenters in one task with one click (command).
vFailover is a script based solution running on a system which has network connection to vCenter Server. There slightly different requirements depending on the supported storage platforms.
vFailover works in environments with one or two vCenters.
vCenter is an essential component. It has to be assured that it's available or can be recovered easily at the remaining site in case of a disaster. With this solution and storage vendors remote replication technologies it is possible to protect important Virtual Machines by mirroring the underlying Datastores.

VFailover

Workflow:

- Initiate Failover/Failback
- Get Information about datastore(s) and VMs from vCenter server
- Shutdown/Power Off affected VMs, Move running VMs to non affected Hosts if necessary
- Reconfigure virtual machines for failover
- Unregister affected VMs and store all properties
- Make Remote Copy volume accessible to the ESX(i) servers in the cluster
- Rescan HBAs and VMFS on all ESX(i) hosts
- Resignature Datastore(s) on mirrored volume
- Refresh VMware host configuration
- Reregister Virtual Machines
- Reconfigure Virtual Machines
- Startup VMs in predefined order

Modes:

- *CONFIG* – creates data store and raw device to LUN mapping configuration
- *STATUS* – shows actual configuration and displays mirror information
- *PLANNED* – Environment in both datacenters is fully working. Switches one or more datastores/VMs from one site to the other
- *UNPLANNED* – disaster occurred on one site (host failures, storage failure, site failure). Switches all affected datastores/VMs to the remaining site
- *REPAIR – check and if needed repair configuration after a disaster*
- *VCENTER – switch vCenter server from one site to other site, if on mirrored datastore*

Supported vCenter/VMware Cluster Configurations:

- 1 x vCenter Server/one or more VMware HA-Clusters spanning over both sites – ESX(i) Hosts on both sites
- 1 x vCenter Server/one or more VMware HA-Clusters at each site
- 2 x vCenter Servers/one ore more VMware HA-Clusters at each site (like SRM setup)

Requirements

- vSphere 4.0, 4.1, 5.0, 5.1, 5.5
- ESX(i) 4.0, 4.1, 5.0, 5.1, 5.5

Storage Subsystem Support

- HDS Thunder 9570V / 9580V
- HDS AMS 200 / 500 / 1000
- HDS AMS 2100 / 2300 / 2500
- HDS TagmaStore Universal Storage Platform 100 / 600 / 1100
- HDS TagmaStore Network Storage Controller 55
- HDS Universal Storage Platform V / VM
- HDS Virtual Storage Platform
- HDS Unified Storage VM
- HDS Unified Storage 100 Family (HUS 110, HUS 130, HUS 150)
- Hitachi Network Attached Storage (HNAS)

Replication Technologies:

- Hitachi Truecopy synchronous
- Hitachi Universal Replicator
- BlueArc Jetmirror (HNAS)
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